



## Impact of Corrosion on Ground Vehicles: Program Review, Issues and Solutions

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# TACOM/TARDEC Corrosion Program Lifecycle Focus



## Influence future design & acquisition

- Design with corrosion in mind
- Adoption of new technology
- Programmatic reviews

## Improve current production, repair, upgrades

- Identify product and process improvements
- Materials & coatings improvements

## Protect fielded fleet

- Coatings & inhibitors
- Controlled environments
- Vehicle assessments

***Bottom Line: - Keep readiness rates up - Keep costs down***

## TACOM/TARDEC CPAC *Current Program*

Issues and Solutions  
*Protect Fielded Assets*

Future Plans

*Army Equipment Headed for Iraq*





# CPAC Current Program Fielded Fleet – Program elements



- **Corrosion prevention training for design engineers**
  - Corrosion resistant materials
  - New Design considerations
  - Improved finishing techniques
- **New paint and application techniques**
  - Water based CARC and Primer
  - Cartridge application technologies
- **Controlled humidity protection**
  - Humidity controlled buildings
  - Humidity controlled systems for individual units
  - Protective covers/bags
- **CPAC Field Teams**
  - Corrosion Service Teams (CST) - worldwide
  - Repair initial stages of corrosion
  - Application of corrosion preventive compounds
  - Identify Environmentally friendly Corrosion prevention compounds





Fixed and Mobile System Sites

## CPC application

- Ft. Polk; Ft. Hood; Schofield Barracks; Okinawa, Japan; Camp Carroll, South Korea; Ft. Bragg, Ft. Stewart, Charleston Seaport, and special deployment locations (Ft. Lewis, Kentucky Bluegrass Station)
- Treated 64,773 pieces of equipment since FY 2007

## Surface Preparation and Repairs

- 6,442 pieces of equipment since FY 07
- Surface preparation, prime, and paint at all CPAC locations.

## Developed Mobile Corrosion System





Chassis frames rust through

Trailer floors cannot support load

Suspensions/brakes lose performance capabilities

Insufficient or non-existent wash facilities.

Frozen/rusted wheel lug nuts

Battery maintenance. Terminal corrosion.





Not Mission Ready

Accidents

Reduced Readiness Rates

Negates CARC Paint Performance







## Controlled Humidity Building

100,000 Sq Ft capacity approximately 250 MRAPs

## Controlled Humidity Motor Pool System

- One system capacity approximately 20 Strykers





## Storage Bagging systems

- Shrink wrap
- Sealed bags
- 5 sided bag
- Different storage duration times
- One time use or re-usable



## THE CORROSION SERVICE TEAM

Step 1: Clean/Wash Equipment



Step 2: Surface Preparation /Paint



Step 3: Preservation



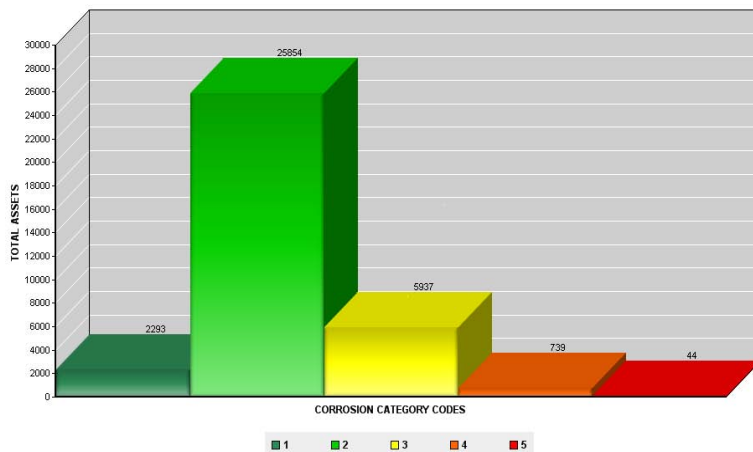
Step 4: Inspection/Assessment





## Web based system

- Records of every piece of equipment processed
  - Accessible by the soldiers
  - Updated nightly



Sample chart from the database.



Continue to expand our presence at Army locations

Team with AMCOM for Patriot Missile Systems – Korea/Japan

Support emerging FORSCOM requirements

Support Rapid Deployment of Equipment

Provide support to the Army National Guard

Provide support to the Army Reserves

Implement corrosion mitigation projects

Improve corrosion data collection and analysis



## Corrosion:

- A known, verifiable performance and readiness degrader
- Results in billions of dollars of maintenance and repair annually

## CPAC Program:

- Is a Non-Intrusive process affecting day to day operations
- An established program blending safety and environmental protection
- Provides training in prevention techniques
- Performs repair and treatment on site

## Program Requirements:

**Greater Army-wide Acceptance**

**Focus on Total Life Cycle Costs**

**Growing Culture Shift**